

LESSON NO. 5: ENLARGEMENTS



2006

4

(c)	(i)	Construct a triangle <i>abc</i> in	which $ ab = 6.5$ cr	m, $ bc = 2.5$ cm and $ ac = 6$ cm.
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- (ii) Construct the image of the triangle abc under the enlargement of scale factor 1.8 and centre c.
- (iii) Given that the area of triangle abc is 7.5 cm², find the area of the image triangle.

2005

- 4 (c) (i) Draw a square *opqr* with sides 8 cm.
 - (ii) Draw the image of this square under the enlargement with centre o and scale factor 0.25.
 - (iii) Calculate the area of this image square.
 - (iv) Under another enlargement the area of the image of the square *opqr* is 100 cm². What is the scale factor of this enlargement?



2003

- 4 (c) (i) Construct a triangle *abc* in which |ab| = 10.5 cm, |bc| = 5 cm and |ac| = 8.5 cm.
 - (ii) Choose any point *p* that is *outside* the triangle and construct the image of *abc* under the enlargement of scale factor 0.4 and centre *p*.
 - (iii) Given that the area of this image triangle is 3.36 cm^2 , calculate the area of the original triangle *abc*.

2002

- 4 (c) The triangle a'b'c' is the image of the triangle *abc* under an enlargement.
 - (i) Find, by measurement, the scale factor of the enlargement.
 - (ii) Copy the diagram and show how to find the centre of the enlargement.
 - (iii) Units are chosen so that |bc| = 8 units. How many of these units is |b'c'|?
 - (iv) Find the area of triangle abc, given that the area of a'b'c' is 84 square units.



2001

- 4 (c) (i) Draw a square with sides 7 cm and mark *o*, the point of intersection of the diagonals.
 - (ii) Draw the image of the square under the enlargement with centre *o* and scale factor $\frac{1}{2}$.
 - (iii) Calculate the area of the image square.
 - (iv) Under another enlargement the area of the image of the square with sides 7 cm is 196 cm².
 What is the scale factor of this englargement?

2000

- 4 (c) The triangle *cde* is the image of the triangle *cab* under an enlargement with centre *c*. |ca| = 12, |ad| = 9 and |cb| = 8.
 - (i) Find the scale factor of the enlargement.
 - (ii) Find |be|.
 - (iii) The area of the triangle *cde* is 98 square units. Find the area of the triangle *cab*.



1999

4 (c) The triangle *ocd* is the image of the triangle *opq* under the enlargement, centre *o*, with |*pq*| = 4, |*op*| = 5 and |*cd*| = 9.
(i) Find the scale factor of the enlargement.

- (ii) Find |pc|.
- (iii) The area of the triangle *ocd* is 60.75 square units. Find the area of the triangle *opq*.









- (i) Find the scale factor of the enlargement.
- (ii) Find |dh|.
- (iii) The area of the triangle xyz is 27 square units. Find the area of the triangle dgh.

n

1997

- 4 (c) The triangle *odc* is the image of the triangle *oab* under an enlargement, centre *o*. |cd| = 9 and |ab| = 15.
 - (i) Find the scale factor of the enlargement.
 - (ii) If the area of triangle *oab* is 87.5 square units, find the area of triangle *odc*.
 - (iii) Write down the area of the region *abcd*.



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1996

- 4 (c) The triangle *xyz* is the image of the triangle *abc* under the enlargement, centre *o*, with |*ab*| = 4 and |*xz*| = 12. The scale factor of the enlargement is 1.5.
 (i) Find |*xy*|.
 (ii) Find |*ac*|.
 - (iii) If the area of triangle *abc* is12.2 square units, calculate the area of triangle *xyz*.

Answers							
2007	4	(c) (i) 2.8	(ii) 2.5	(iii) 35.28 square units			
2006	4	(c) (iii) 24.3 cm ²					
2005	4	(c) (iii) 4 cm ²	(iv) 1.25				
2004	4	(c) (i) 3.5	(ii) 10.5	(iii) 56.25 square units			
2003	4	(c) (iii) 21 cm ²					
2002	4	(c) (i) 2	(iii) 16	(iv) 21 square units			
2001	4	(c) (iii) 12.25 cm ²	(iv) 2				
2000	4	(c) (i) 1.75	(ii) 6	(iii) 32 square units			
1999	4	(c) (i) 2.25	(ii) 6.25	(iii) 12 square units			
1998	4	(c) (i) 1.5	(ii) 6	(iii) 12 square units			
1997	4	(c) (i) 0.6	(ii) 31.5 square units	(iii) 56 square units			
1996	4	(c) (i) 6	(ii) 8	(iii) 27.45 square units			